

Asthma in Missouri 2019 Brief



ASTHMA

Asthma is a chronic lung disease characterized by periods of wheezing, chest tightness, shortness of breath and coughing. Symptoms often occur or worsen at night or in the early morning. Often symptom occurrences, often referred to as “asthma attacks,” are the result of inflammation and narrowing of the airways due to a variety of factors or “triggers.” While the specific cause of asthma is unknown, the triggers are well documented (see glossary). The Missouri Asthma Prevention and Control Program links schools, communities, providers and health plans to provide and build comprehensive statewide asthma control systems through workforce development, guidelines-based care, home environmental assessments, and asthma self-management education.

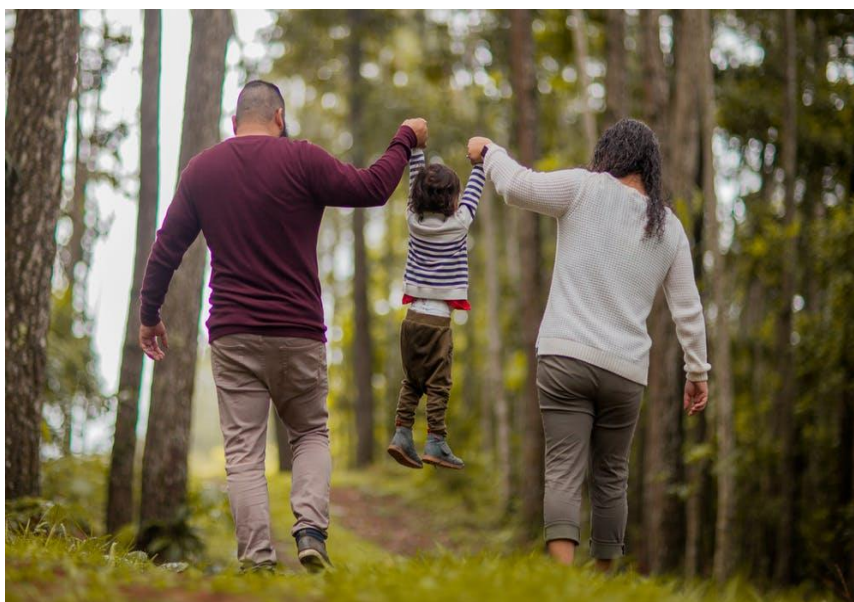
PREVALENCE

- In Missouri, more than one-half million people are living with asthma including an estimated 440,000 adults and 120,000 children (2017).¹
- Among adults, the prevalence of current asthma is significantly higher among women than men (Table 1).
- Among children 17 years of age and younger, asthma is more common among boys than girls.

Table 1. Prevalence of Current Asthma Among Adults, Age 18 and Older and Children Age 17 and Younger, Missouri, 2017

Characteristic	Adult Percent 95% CI	Children Percent 95% CI
All	9.4 8.5 – 10.3	9.7 7.8 – 12.0
Gender		
Female	12.5 11.1 – 13.9	8.8 6.2 – 12.4
Male	6.1 4.9 – 7.2	10.7 8.1 – 14.0
Race		
African American	15.1 11.5 – 18.7	13.3 8.4 – 20.3
Other Minorities	9.3 4.3 – 14.3	19.0 10.6 – 31.7
White	8.6 7.6 – 9.5	7.5 5.8 – 9.8

Source: CDC, Behavioral Risk Factor Surveillance System



- Current asthma is significantly higher among adults with less than a high school education (14.6%, 95% CI 10.8 - 18.3) compared to those with a college education (7.3%, 95% CI 5.9 - 8.8) and among adults with household incomes less than \$15,000 (19.3%, 95% CI 15.0 - 23.6) compared to adults with household incomes at \$25,000 or more.
- According to the National Health Interview Survey, an estimated 25 million people in the United States (7.7% adults and 7.5% of children) currently have asthma (2018).²
- In Missouri and across the nation, current asthma is more common among African-Americans.

Impacting Asthma

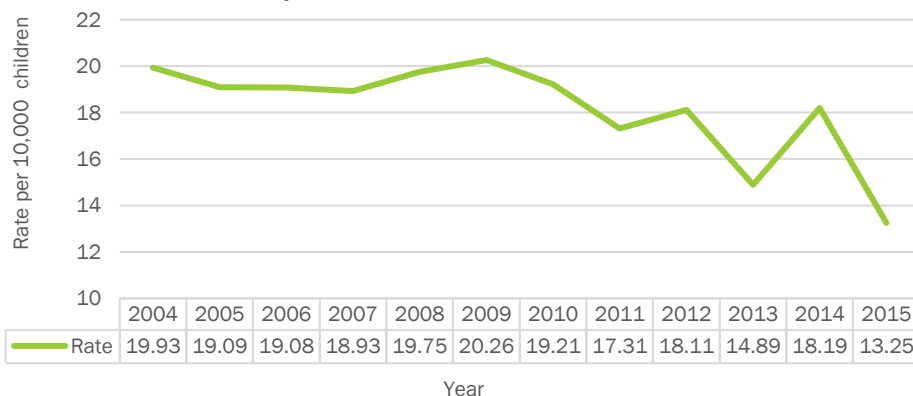


ENHANCING OUTCOMES

Although more adults have asthma, approximately 55% of children with asthma in Missouri are uncontrolled³ leading to frequent symptoms and urgent asthma attacks resulting in impairment, absenteeism from school, and a disproportionate share of emergency department (ED) visits and hospitalizations. More than one-third of Missouri asthma ED visits (42.2%) and hospitalizations (31.5%) occurred among children 17 and younger in 2015.⁴ The Missouri Asthma Prevention and Control Program goals continue to improve asthma control and reduce the burden of asthma. Results from partnership efforts indicate:

- Asthma hospitalization rates declined 2.5 percent annually among children 0 to 17 years of age in Missouri, 2004-2015 (Figure 1).
- Significant declining trends in asthma hospitalizations rates have occurred among children in three age groups: < 1 year, 1 to 4, and 10 to 14.⁵

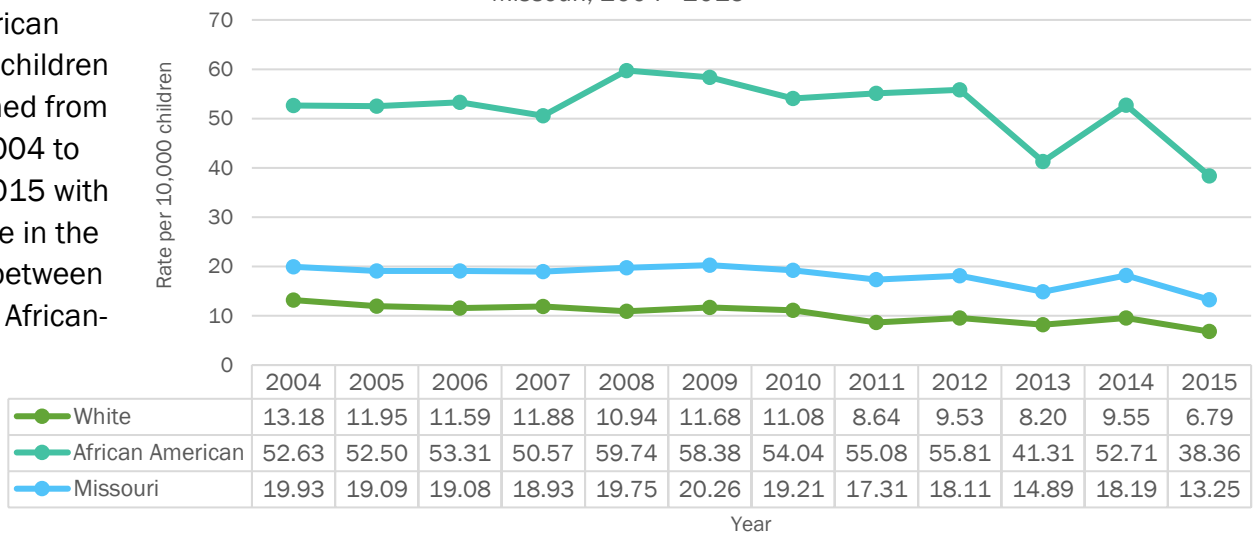
Figure 1. Asthma Hospitalization Rates for Children aged 0 to 17 years, Missouri, 2004 - 2015



Source: Missouri Department of Health and Senior Services, Missouri Public Health Information Management System (MOPHIMS), Inpatient Hospitalizations Missouri Information for Community Assessment (MICA)

- The asthma hospitalization rate among African American children has declined from 52.6 in 2004 to 38.4 in 2015 with a decrease in the disparity between white and African-American children (Figure 2).

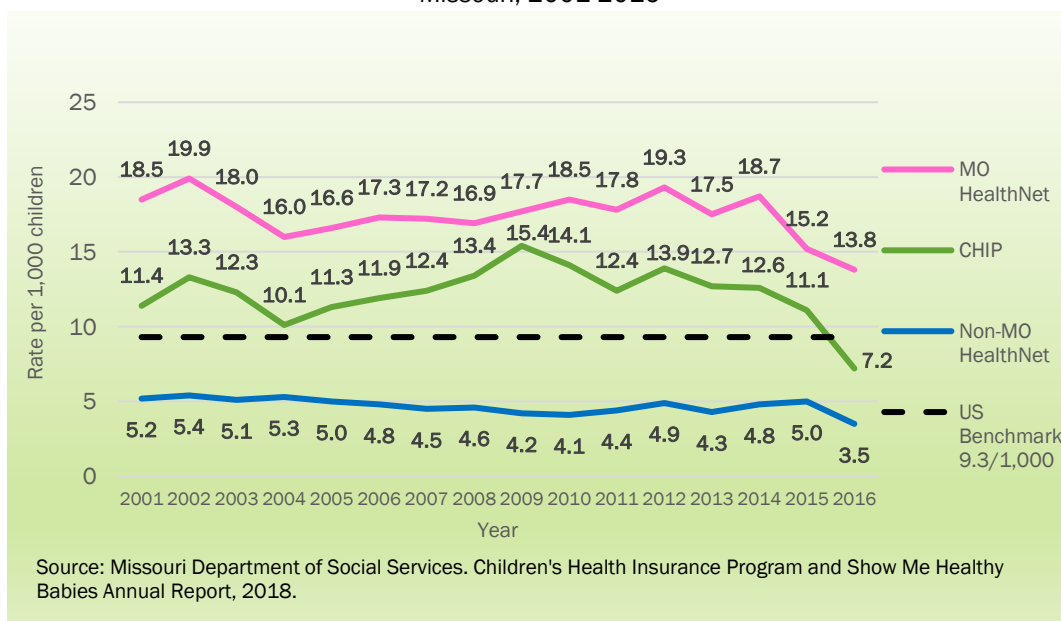
Figure 2. Asthma Hospitalization Rates for Children aged 0 to 17 by Race, Missouri, 2004 - 2015



Source: Missouri Department of Health and Senior Services, Missouri Public Health Information Management System (MOPHIMS), Inpatient Hospitalization Missouri Information for Community Assessment (MICA)

- There was a significant decrease in asthma preventable hospitalizations among children enrolled in MO HealthNet (Medicaid), CHIP and children not enrolled in MO HealthNet. In 2016, the CHIP preventable hospitalization rate of 0.8 per 1,000 children was 44% lower than the national benchmark of 1.43 per 1,000 children.⁶
- While the asthma ED visit rates among all children in Missouri have remained relatively stable since 2001, the asthma ED visit rate among MO HealthNet children declined 25.4% from 18.5 (2001) to 13.8 (2016) per 1,000 children and the CHIP rate declined 36.8% for the same years. In addition, the CHIP rate of 7.2 per 1,000 children was 23% lower than the national benchmark rate of 9.3 per 1,000 children (Figure 3).

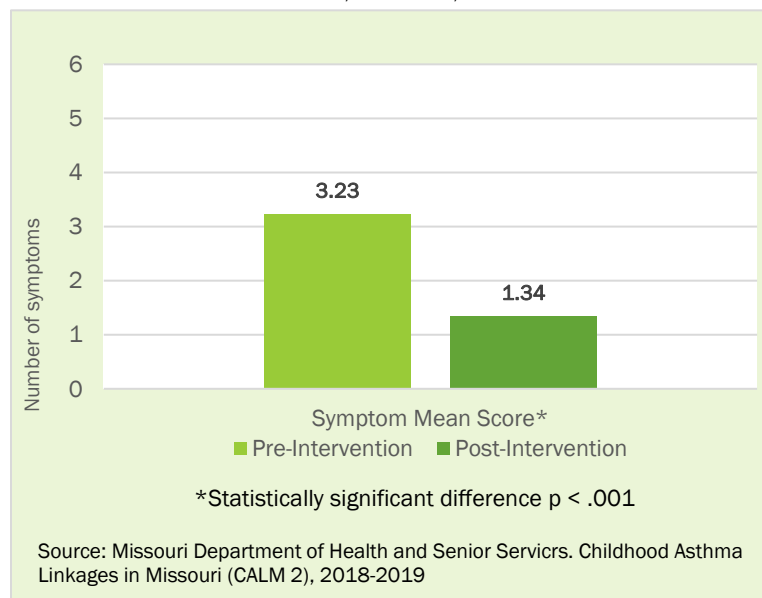
Figure 3. Asthma Emergency Department Visits per 1,000 Children, Missouri, 2001-2016



Source: Missouri Department of Social Services. Children's Health Insurance Program and Show Me Healthy Babies Annual Report, 2018.

- Children with asthma enrolled in the Community Asthma Linkages in Missouri (CALM 2) program receive *Teaming Up for Asthma Control*, a work force development school intervention to improve asthma control among students through guidelines-based care, standardized assessments, appropriate medication, self-management care, avoidance of triggers and healthy homes.⁷ Among the 71 students enrolled from 11 school districts, evaluation results for the school year 2018-2019 showed a significant reduction in each of six self-reported asthma symptoms from pre- to post intervention and in mean total symptoms (Figure 4).

Figure 4 Total Symptom Mean Score Pre- and Post-Intervention for Children with Asthma aged 5 to 17 years Enrolled in the CALM 2 School Initiative, Missouri, 2018-2019



SUMMARY

This health brief describes the asthma prevalence (i.e., number of people who self-report being diagnosed by a health professional and currently having asthma), morbidity in terms of emergency department visits and hospitalizations, and deaths in Missouri as well as outcomes from evidence-supported strategies.

Integrating clinical care and public health yields innovative interventions for improved asthma outcomes in the pediatric population. Continued improvement in systems of care and changes in policy have improved the quality of life and decreased economic losses attributed to asthma. MAPCP interventions are making a difference. Wide spread adoption of these disease management strategies could result in healthier and more productive lives for thousands of Missourians.

MISSOURI QUICK FACTS

- Over one-half million people have asthma
- In 2015:
 - 30,253 asthma emergency department visits
 - 5,855 asthma hospitalizations
 - Hospitalization charges totaled \$105 million for asthma as a primary diagnosis
- In 2018, there were 83 asthma deaths, of these six were 0 to 17 years of age
- Home-based interventions that address multiple triggers and include several components have been found to improve health outcomes for children and teens with asthma.

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GLOSSARY

Asthma: A chronic, inflammatory disease of the lungs. This swelling causes the airway to narrow making it difficult to breathe.

Asthma Control: Comprised of two parts – reduced impairment (prevent chronic symptoms) and reduced risk (prevent recurrent attacks, minimize emergency department visits and hospitalizations, prevent loss of lung function).

Behavioral Risk Factor Surveillance System (BRFSS): Behavioral Risk Factor Surveillance System (BRFSS): Random-digit-dialed cross-sectional telephone survey. Conducted by the Centers for Disease Control and Prevention (CDC), state health departments, universities and other agencies. Generates U.S. and state-specific information about health risk behaviors clinical preventive services, disease prevalence, health care access, and other health related issues BRFSS surveys the adult (18 years of age and older) civilian non-institutionalized population annually.

Chronic Disease: A disease that lasts for years. A chronic disease like asthma has no cure, but can be controlled.

Confidence Interval (CI): A range of values, calculated from the sample observations, that include the true value. For prevalence, the 95 percent CI will include the true rate 95 percent of the time, if the samples and calculations are repeated many times.

Missouri Information for Community Assessment (MICA): A public, web-based, interactive data portal developed and maintained by the Missouri Department of Health and Senior Services at <https://healthapps.dhss.mo.gov/MoPhims/MICAHome>

Morbidity: Refers to illness, disability or poor health due to any cause.

Prevalence: Number of existing cases of a disease during a certain time period in a specified population.

Triggers: Things that can bring on symptoms of asthma. Triggers are different for different people. Common asthma triggers include: cigarette smoke, cats, mold, mildew, dust mites, roaches or ragweed. Other common triggers are colds and flu, exercise, strong emotions, cold air, beer, wine, change in weather and some medication.

REFERENCES

¹ Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. Retrieved November 15, 2019, from <https://www.cdc.gov/asthma/brfss/default.htm>

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³ CDC. Uncontrolled asthma among children, 2012-2014. Behavioral Risk Factor Surveillance System (BRFSS)—Child Asthma Call-back Survey Data, 2012-2014. Retrieved November 15, 2019, from https://www.cdc.gov/asthma/asthma_stats/uncontrolled-asthma-children.htm

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⁷ Francisco B, Rood T, Nevel R, Foreman P, Homan S. Teaming Up for Asthma Control: EPR-3 Compliant School Program in Missouri Is Effective and Cost-Efficient. Prev Chronic Dis 2017;14:170003. DOI: <http://dx.doi.org/10.5888/pcd14.170003>



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Bureau of Cancer and Chronic Disease Control

<https://health.mo.gov/living/healthcondiseases/chronic/asthma/index.php>

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